

WE CLAIM:

1. A portable lightweight hand tool for applying an insulation-piercing electrical connector to an insulated electrical cable having a plurality of wires, comprising:

a two part frame manufactured of impact resistant material;

the first part of said frame having loading die for receiving and holding the electrical connector; and

the second part of the frame having a wire insertion end including a plurality of grooves for receiving the wires to be placed into the connector; whereby, when loaded with a connector and wires, relative movement of the first and second parts of the frame causes the insulation of the individual wires to be pierced and electrically connected to the connector.

2. The portable lightweight hand tool of claim 1 wherein a plurality of grooves on the frame are color coded in an order representing the order in which the ends of a plurality of color coded wires are to be electrically connected to the insulation-piercing connector.

3. The portable lightweight hand tool of claim 1 wherein the first and second parts of the frame are constructed of lightweight, impact resistant plastic.

4. The portable lightweight hand tool of claim 1 wherein the loading die includes at least two upstanding walls for engaging respective sides of the insulation-piercing connector.

5. The portable lightweight hand tool of claim 1 wherein the loading die on the frame includes a plurality of grooves for accepting upstanding tabs on an insulation-piercing connector.

6. The portable lightweight hand tool of claim 1 wherein the first part of the frame includes an arcuate surface for abutting the palm of the user of the tool.

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7. The portable lightweight hand tool of claim 1 wherein the second part of the frame includes a pair of arcuate, finger-gripping portions for engagement by the fingers of the user of the tool.

8. The portable lightweight hand tool of claim 1 wherein the first and second parts of the frame include cooperating guide means to maintain aligned, relative movement of the first part of the frame with respect to the second part of the frame.

9. The portable lightweight hand tool of claim 1 wherein the first and second parts of the frame include detent means permitting initial assembly of the separate parts of the frame while preventing subsequent disassembly thereof.

10. The portable lightweight hand tool of the claim 9 including a key and guideway formed on the respective portions of the frame to maintain alignment thereof during actuation.

11. The portable lightweight hand tool of claim 1 including an apertured tab on a portion of the frame to facilitate connection of the hand tool to a tether.

12. A portable lightweight injection molded impact resistant plastic hand tool for applying an electrical connector having a plurality of insulation displacing conductive elements to an insulated electrical cable having a plurality of color wires, comprising:

a two part frame;

means for connecting the two parts of the frame to permit aligned manual relative movement between the parts;

the first part of said frame having a loading die on the frame for receiving and holding the electrical connector; and

the second part of the frame having a wire insertion end including a plurality of color coded grooves for receiving the wires to be placed into the insulation-piercing connector; whereby, when loaded with a connector and wires, relative movement of the first and second parts of the frame causes the insulation of individual wires to be pierced and electrically connected to the connector.

13. The portable lightweight hand tool of claim 12 wherein the grooves on the frame carry indicia to color code an arrangement representing the order in which the ends of the color coded wires are to be electrically connected to the insulation-piercing connector.

14. The portable lightweight hand tool of claim 13 wherein the first and second part of the frame are constructed of lightweight, impact resistant plastic.

15. The portable lightweight hand tool of claim 12 when the loading die includes at least two upstanding walls for contacting respective sides of the insulation-piercing connector.

16. The portable lightweight hand tool of claim 15 wherein the loading die on the frame includes a plurality of grooves for accepting upstanding tabs on the insulation-piercing connector.

17. The portable lightweight hand tool of claim 16 wherein the first part of the frame includes an arcuate surface for abutting the palm of the user of the tool.

18. The portable lightweight hand tool of claim 16 wherein the second part of the frame includes a pair of arcuate, finger-gripping portions for engagement by the fingers of the user of the tool.

19. The portable lightweight hand tool of claim 13 wherein the first and second parts of the frame include cooperating guide means to maintain aligned, relative movement of the first part of the frame with respect to the second part of the frame during actuation.

20. The portable lightweight hand tool of claim 13 wherein the first and second parts of the frame include detent means permitting initial assembly of the separate parts of the frame while preventing subsequent disassembly thereof.

21. The portable lightweight hand tool of the claim 12 including a key and guideway formed on the respective portions of the frame to maintain alignment thereof during actuation.

22. The portable lightweight hand tool of claim 12 including an apertured tab on a portion of the frame to facilitate connection of the hand tool to a tether.

23. A portable lightweight hand tool is provided for applying a two-part electrical connector having insulation displacement conductive elements to an insulated electrical cable having a plurality of color coded electrical wires, comprising:

( an injection molded impact resistant plastic manually grippable frame element, having a loading die on the frame for receiving and holding the two-part electrical connector; and

✓ a movable compression element for movement relative to the loading die into engagement with the electrical connector, the movable compression element having a plurality of color coded aligned grooves for receiving the color coded wires to be connected to the connector; whereby, when loaded with a connector and wires, relative movement of the loading die and compression element causes the insulation of individual wires to be pierced and electrically connected to the connector.

24. The portable lightweight hand tool of claim 23 wherein the one part of the frame includes an arcuate surface for abutting the palm of the user and the other part of the frame includes a pair of arcuate, finger-gripping portions for engagement by the fingers of the user of the tool.

25. The portable lightweight hand tool of claim 23 wherein the first and second parts of the frame include cooperating guide means to maintain aligned, relative movement of the first part of the frame with respect to the second part of the frame and detent means permitting initial assembly of the separate parts of the frame while preventing subsequent disassembly thereof.

26. A small portable hand-held lightweight injection molded plastic tool for applying an insulation-piercing electrical connector to an insulated electrical cable having a plurality of color coded wires, comprising:

✓ a two part frame manufactured of impact-resistant material;

the first part of said frame having loading die for receiving and holding the electrical connector; and

the second part of the frame having a wire insertion end including a plurality of aligned, color coded grooves for receiving the color coded wires to be placed into the connector;

whereby, when loaded with a connector and wires, relative movement of the first and second parts of the frame causes the insulation of each of the individual wires to be pierced and electrically connected to the connector.

27. The portable hand tool of claim 26 wherein the loading die on the frame includes a plurality of grooves for accepting upstanding tabs on an insulation-piercing connector.

28. The portable hand tool of claim 27 wherein the first part of the frame includes an arcuate surface for abutting the palm of the user of the tool.

29. The portable lightweight hand tool of claim 28 wherein the second part of the frame includes a pair of arcuate, finger-gripping portions for engagement by the fingers of the user of the tool.

30. The portable lightweight hand tool of claim 26 wherein the first and second parts of the frame each include cooperating guide means to maintain aligned, relative movement of the first part of the frame with respect to the second part of the frame.

31. The portable lightweight hand tool of claim 26 wherein the first and second parts of the frame include detent means permitting initial assembly of the separate parts of the frame while preventing subsequent disassembly thereof.

32. The portable lightweight hand tool of claim 27 including an apertured tab on a portion of the frame to facilitate connection of the hand tool to a tether.

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